10 CSR 10-2.260 Control of Petroleum Liquid Storage, Loading and Transfer

(1) Definitions.

(A) CARB - California Air Resources Board, 2020 L Street, P.O. Box 2815, Sacramento, CA 95812.

(B) Department - Missouri Department of Natural Resources, 205 Jefferson Street, P.O. Box 176, Jefferson City, MO 65102.

(C) Initial fueling of motor vehicles - The operation of dispensing gasoline fuel into a newly assembled motor vehicle at an automobile assembly plant while the vehicle is still being assembled on the assembly line. The newly assembled motor vehicles being fueled on the assembly line must have fuel tanks that have never before contained gasoline fuel.

(D) MO/PETP - The Missouri Performance Evaluation Test Procedures, a set of test procedures for evaluating performance of Stage I/II vapor control equipment and systems to be installed or that have been installed in Missouri. Contact the department for a copy of the latest MO/PETP.

(E) Staff director - Director of the Air Pollution Control Program of the Department of Natural Resources, or a designated representative.

(F) Stage I vapor recovery system - A system used to capture the gasoline vapors that would otherwise by emitted when a gasoline storage tank is refilled by a tank truck.

(G) Definitions of certain terms specified in this rule, other than those specified in this rule section, may be found in 10 CSR 10-6.020.

(2) Applicability. This rule shall apply throughout Clay, Jackson and Platte Counties.

(3) Petroleum Storage Tanks.

(A) No owner or operator of petroleum storage tanks shall cause or permit the storage in any stationary storage tank of more than forty thousand (40,000) gallons capacity of any petroleum liquid having a true vapor pressure of one and one-half (1.5) pounds per square inch

absolute (psia) or greater at ninety degrees Fahrenheit (90/F), unless the storage tank is a pressure tank capable of maintaining working pressures sufficient at all times to prevent volatile organic compound (VOC) vapor or gas loss to the atmosphere or is equipped with one (1) of the following vapor loss control devices:

1. A floating roof, consisting of a pontoon type, double-deck type or internal floating cover, or external floating cover, that rests on the surface of the liquid contents and is equipped with a closure seal(s) to close the space between the roof edge and tank wall. Storage tanks with external floating roofs shall meet the additional following requirements:

    A. The storage tank shall be fitted with either —

        (I) A continuous secondary seal extending from the floating roof to the tank wall (rim-mounted secondary seal); or

        (II) A closure or other device approved by the staff director that controls VOC emissions with an effectiveness equal to or greater than a seal required under part (3)(A)1.A.(I) of this rule;

    B. All seal closure devices shall meet the following requirements:

        (I) There are no visible holes, tears or other openings in the seal(s) or seal fabric;

        (II) The seal(s) is intact and uniformly in place around the circumference of the floating roof between the floating roof and the tank wall; and

        (III) For vapor-mounted primary seals, the accumulated area of gaps exceeding 0.32 centimeters, one-eighth inch (1/8") width, between the secondary seal and the tank wall shall not exceed 21.2 cm^2 per meter of tank diameter (1.0 in^2 per foot of tank diameter);

C. All openings in the external floating roof, except for automatic bleeder vents, rim space vents and leg sleeves shall be equipped with —

(I) Covers, seals or lids in the closed position except when the openings are in actual use; and

(II) Projections into the tank which remain below the liquid surface at all times;

D. Automatic bleeder vents shall be closed at all times except when the roof is floated off or landed on the roof leg supports;

E. Rim vents shall be set to open when the roof is being floated off the leg supports or at the manufacturer's recommended setting; and

F. Emergency roof drains shall have slotted membrane fabric covers or equivalent covers which cover at least ninety percent (90%) of the area of the opening;

2. A vapor recovery system with all storage tank gauging and sampling devices gas-tight, except when gauging or sampling is taking place. The vapor disposal portion of the vapor recovery system shall consist of an adsorber system, condensation system, incinerator or equivalent vapor disposal system that processes the vapor and gases from the equipment being controlled; or

3. Other equipment or means of equal efficiency for purposes of air pollution control as approved by the staff director.

(B) Control equipment described in paragraph (3)(A)1. of this rule shall not be allowed if the petroleum liquid other than gasoline has a true vapor pressure of 11.1 psia or greater at ninety degrees Fahrenheit (90/F). All storage tank gauging and sampling devices shall be gas-tight except when gauging or sampling is taking place.

(C) Owners and operators of petroleum storage tanks subject to this section shall maintain written records of

maintenance (both routine and unscheduled) performed on the tanks, all repairs made, the results of all tests performed and the type and quantity of petroleum liquid stored in them. The records shall be maintained for two (2) years and made available to the staff director upon request.

(D) This section shall not apply to petroleum storage tanks which —

1. Are used to store processed and/or treated petroleum or condensate when it is stored, processed and/or treated at a drilling and production installation prior to custody transfer;

2. Contain a petroleum liquid with a true vapor pressure less than 27.6 kilopascals (kPa) (4.0 psia) at ninety degrees Fahrenheit (90/F);

3. Are of welded construction, and equipped with a metallic-type shoe primary seal and have a shoe-mounted secondary seal or closure devices of demonstrated equivalence approved by the staff director; or

4. Are used to store waxy, heavy pour crude oil.

(4) Gasoline Loading.

(A) No owner or operator of a gasoline loading installation or delivery vessel shall cause or permit the loading of gasoline into any delivery vessel from a loading installation unless the loading installation is equipped with a vapor recovery system or equivalent. This system or system equivalent shall be approved by the staff director and the delivery vessel shall be in compliance with section (6) of this rule.

(B) Loading shall be accomplished in a manner that the displaced vapors and air will be vented only to the vapor recovery system. Measures shall be taken to prevent liquid drainage from the loading device when it is not in use or to accomplish complete drainage before the loading device is disconnected. The vapor disposal portion of the vapor recovery system shall consist of one (1) of the following:

1. An adsorber system, condensation system, incinerator or equivalent vapor disposal system that processes the vapors and gases from the equipment being controlled and limits the discharge of VOC into the atmosphere to ten (10) milligrams of VOC vapor per liter of gasoline loaded;

2. A vapor handling system that directs the vapor to a fuel gas system; or

3. Other equipment of an efficiency equal to or greater than paragraph (4)(B)1. or 2. of this rule if approved by the staff director.

(C) Owners and operators of loading installations subject to this section shall maintain complete records documenting the number of delivery vessels loaded and their owners. The records shall be maintained for two (2) years and made available to the staff director upon request.

(D) This section shall not apply to loading installations whose average monthly throughput of gasoline is less than or equal to one hundred twenty thousand (120,000) gallons when averaged over the most recent calendar year, provided that the installation loads gasoline by submerged loading.

1. To maintain the exemption, these installations shall submit to the staff director on a form supplied by the department by February 1 of each year, a report stating gasoline throughput for each month of the previous calendar year. After the effective date of this rule, any revision to the department supplied forms will be presented to the regulated community for a forty-five (45) day comment period.

2. Delivery vessels purchased after the effective date of this rule shall be Stage I equipped.

3. A loading installation that fails to meet the requirements of the exemption for one (1) calendar year shall not qualify for the exemption again.

4. To maintain the exemption owners or operators shall maintain records of gasoline throughput and gasoline delivery.

5. Delivery vessels operated by an exempt installation shall not deliver to Stage I controlled tanks unless the delivery vessel is equipped with and employs Stage I controls.

(5) Gasoline Transfer.

(A) No owner or operator of a gasoline storage tank or delivery vessel shall cause or permit the transfer of gasoline from a delivery vessel into a gasoline storage tank with a capacity greater than two hundred fifty (250) gallons unless —

1. The storage tank is equipped with a submerged fill pipe extending unrestricted to within six inches (6") of the bottom of the tank, and not touching the bottom of the tank, or the storage tank is equipped with a system that allows a bottom fill condition;

2. All storage tank caps and fittings are vapor-tight when gasoline transfer is not taking place; and

3. Each storage tank is vented via a conduit that is:

A. At least two inches (2") inside diameter;

B. At least twelve feet (12') in height above grade; and

C. Equipped with a pressure/vacuum valve that is CARB certified and MO/PETP approved at three inches water column pressure/eight inches water column vacuum (3" wcp/8" wcv). When the owner or operator provides documentation that the system is CARB certified for a different valve and will not function properly with a 3" wcp/8" wcv valve, the valve shall be MO/PETP approved. All pressure/vacuum valves shall be bench tested prior to installation. Initial fueling facilities shall have MO/PETP approved pressure/vacuum valves.

(B) Stationary storage tanks with a capacity greater than two thousand (2,000) gallons shall also be equipped with a Stage I vapor recovery system in addition to the requirements of subsection (5)(A) and the delivery

vessels to these tanks shall be in compliance with section (6) of this rule.

1. The vapor recovery system shall collect no less than ninety percent (90%) by volume of the vapors displaced from the stationary storage tank during gasoline transfer and shall return the vapors via a vapor-tight return line to the delivery vessel. After the effective date of this rule, all coaxial systems shall be equipped with poppeted fittings.

2. A delivery vessel shall be refilled only at installations complying with the provisions of section (4) of this rule.

3. This section shall not be construed to prohibit safety valves or other devices required by governmental regulations.

(C) The owner or operator of stationary storage tanks subject to this section shall keep records documenting the vessel owners and number of delivery vessels unloaded by each owner. Records shall be kept for two (2) years and shall be made available to the staff director within five (5) days of a request. The owner or operator shall retain on-site copies of the loading ticket, manifest or delivery receipt for each grade of product received, subject to examination by the staff director upon request. If a delivery receipt is retained rather than a manifest or loading ticket, the delivery ticket shall bear the following information: vendor name, date of delivery, quantity of each grade, point of origin, and the manifest or loading ticket number. The required retention on-site of the loading ticket, manifest or delivery receipt shall be limited to the four (4) most recent records for each grade of product.

(D) The provisions of subsection (5)(B) of this rule shall not apply to transfers made to storage tanks equipped with floating roofs or their equivalent.

(E) The provisions of subsections (5)(A)–(D) of this rule shall not apply to stationary storage tanks having a capacity less than or equal to two thousand (2,000) gallons used exclusively for the fueling of implements of agriculture or were installed prior to June 12, 1986.

(6) Gasoline Delivery Vessels.

(A) No owner or operator of a gasoline delivery vessel shall operate or use a gasoline delivery vessel which is loaded or unloaded at an installation subject to sections (4) or (5) of this rule unless —

1. The delivery vessel is tested annually to demonstrate compliance with the test method specified in 40 CFR part 63, subpart R, section 63.425(e);

2. The owner or operator obtains the completed test results signed by a representative of the testing facility upon successful completion of the leak test. Blank test certification application forms for the test results will be provided to the testing facilities by the department. After the effective date of this rule, any revision to the department supplied forms will be presented to the regulated community for a forty-five (45)-day comment period. The owner or operator shall send a copy of the signed successful test results to the staff director. The staff director, upon receipt of acceptable test results, shall issue an official sticker to the owner or operator;

3. The Missouri sticker is placed on the upper left portion of the back end of the vessel;

4. The delivery vessel is repaired by the owner or operator and retested within fifteen (15) days of testing if it does not meet the leak test criteria of subsection (6)(A) of this rule; and

5. A copy of the vessel's current Tank Truck Tightness Test results are kept with the delivery vessel at all times and made immediately available to the staff director upon request.

(B) An owner or operator of a gasoline delivery vessel who can demonstrate to the satisfaction of the staff director that the vessel has passed a current annual leak test in another state shall be deemed to have satisfied the requirements of paragraph (6)(A)1. of this rule, if the other state's leak test program requires the same gauge pressure and test procedures as the test specified in

paragraph (6)(A)1. of this rule. The owner or operator shall apply for a Missouri sticker and display the Missouri sticker on the upper left portion of the back end of the delivery vessel.

(C) Owners and operators of gasoline delivery vessels shall maintain written records of all tests and maintenance performed on the vessels. The records shall be maintained for two (2) years and made available to the staff director upon request.

(D) This section shall not be construed to prohibit safety valves or other devices required by governmental regulations.

(7) Owner/Operator Compliance. The owner or operator of a vapor recovery system subject to this rule shall —

(A) Operate the vapor recovery system and the gasoline loading equipment in a manner that prevents —

1. Gauge pressure from exceeding four thousand five hundred (4,500) pascals (eighteen inches (18") of H_2O) in the delivery vessel;

2. A reading equal to or greater than one hundred percent (100%) of the lower explosive limit (LEL, measured as propane) at two and one-half (2.5) centimeters from all points on the perimeter of a potential leak source when measured by the method referenced in 10 CSR 10-6.030(14)(E) during loading or transfer operations; and

3. Visible liquid leaks during loading or transfer operation;

(B) Repair and retest within fifteen (15) days, a vapor recovery system that exceeds the limits in section (7) of this rule; and

(C) Maintain written records of inspection reports, enforcement documents, gasoline deliveries, routine and unscheduled maintenance and repairs and all results of tests conducted. The records shall be maintained for two (2) years and made available to the staff director upon request.

(8) Testing and Monitoring Procedures and Reporting.

(A) Testing and monitoring procedures to determine compliance with section (6) of this rule and confirm the continuing existence of leak-tight conditions shall be conducted using the method referenced in 10 CSR 10-6.030(14)(B).

(B) Testing procedures to determine compliance with paragraph (4)(B)1. of this rule shall be conducted using the method referenced in 10 CSR 10-6.030(14)(A).

(C) The staff director, at any time, may monitor a delivery vessel, vapor recovery system or gasoline loading equipment by a method determined by the staff director to confirm continuing compliance with this rule.

(D) A static leak decay test of the Stage I vapor recovery system shall be required once every five (5) years to demonstrate system vapor tightness. In addition, a bench test of each pressure/vacuum valve shall be required once every two (2) years to demonstrate component vapor tightness.

(E) Additional testing may also be required by the staff director in order to determine proper functioning of vapor recovery equipment.

EPA Rulemakings

CFR: 40 C.F.R. 52.1320(c)

FRM: 68 FR 12825 (03/18/2003)

PRM: 68 FR 12886 (03/18/2003)

State Submission: 11/15/2002

State Final: 10 C.S.R. 10-2 (10/31/2002)

APDB File: MO-211

Description: This rule revision corrects errors in subsections (5)(A) and (5)(B) and adds a definition for Stage I Vapor Recovery to section (1) Definitions.

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CFR: 40 C.F.R. 52.1320(c)

FRM: 67 FR 20036 (04/24/2002)

PRM: 67 FR 20080 (04/24/2002)

State Submission: 07/19/2001

State Final: 10 C.S.R. 10-2 (06/30/2001)

APDB File: MO-178

Description: This rule revision amends certain portions of the Stage I vapor recovery rule applicable to the storage, loading, and transfer of liquid petroleum in Clay, Jackson and Platte Counties in the Kansas City, Missouri, metropolitan area.

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CFR: 40 C.F.R. 52.1320(c)(99)(i)(A)

FRM: 62 FR 44219 (8/20/97)

PRM: 61 FR 68199 (12/27/96)

State Submission: 2/1/96

State Proposal: 20 MR 6774 (11/15/95)

State Final: 10 C.S.R. 10-2 (11/30/95)

APDB File: MO-125

Description: This revision changes the periods for testing tank trucks that have rubber hoods from April 1 through July 1 to January 1 through May 30 of each year. The testing period for aluminum hoods will take place from January 1 through December 31 of each year. In addition, this revision adds a leak test application and a request for exemption provision.

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CFR: 40 C.F.R. 52.1320(c)(79)(i)(B)

FRM: 59 FR 43480 (8/24/94), Correction notice 60 FR 16806 (4/3/95)

PRM: 57 FR 32191 (7/21/92)

State Submission: 1/20/91

State Proposal: 16 MR 989 (7/1/91)

State Final: 10 C.S.R. 10-2 (11/29/91)

APDB File: MO-100

Description: This revision updates this rule to include the correct reference method specified in 10 C.S.R. 10-6.030.

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CFR: 40 C.F.R. 52.1320(c)(73)(i)(A)

FRM: 56 FR 5652 (2/12/91)

PRM: None

State Submission: 7/19/90

State Proposal: 14 MR 1653 (12/1/89)

State Final: 15 MR 841 (5/14/90)

APDB File: MO-83

Description: The EPA approved changes that require gasoline delivery vessels operating in the St. Louis and Kansas City ozone nonattainment areas to be leak tested on an annual basis.

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CFR: 40 C.F.R. 52.1320(c)(65)(i)(A)

FRM: 54 FR 10322 (3/13/89)

PRM: 53 FR 24735 (6/30/88)

State Submission: 5/21/86 and 12/18/87

State Proposal: 11 MR 469 (2/14/86), 12 MR 1384 (9/14/87)
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State Final: 11 MR 986 (5/19/86), 12 MR 1952 (12/14/87)

APDB File: MO-49

Description: The EPA approved changes which: (1) added Stage I requirements, (2) changed the vapor pressure cutoff for storage tanks to 1.5 psia @ 90°F, (3) added recordkeeping provisions, and (4) made other technical and administrative changes.

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CFR: 40 C.F.R. 52.1320(c)(57)(i)(A)

FRM: 51 FR 40316 (11/6/86)

PRM: 51 FR 8517 (3/12/86)

State Submission: 7/1/85

State Proposal: 9 MR 1767 (12/3/84)

State Final: 10 MR 597 (5/1/85)

APDB File: MO-66

Description: The EPA approved changes which: (1) amended the exemption level for bulk gasoline plants, and (2) made other technical and administrative changes, including deletion of the 100 TPY cutoff.

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CFR: 40 C.F.R. 52.1320(c)(25)(ii)

FRM: 46 FR 20172 (4/3/81)

PRM: 45 FR 84099 (12/22/80)

State Submission: 9/2/80

State Proposal: 4 MR 1144 (11/1/79), 5 MR 368 (4/1/80)
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State Final: 5 MR 295 (3/3/80), 5 MR 1125 (9/2/80)

APDB File: MO-12

Description: The EPA approved changes submitted to comply with Group II CTGs, including new requirements for floating roof tanks and gasoline delivery vessels. Provisions pertaining to Stage I were deleted. A 100 TPY cutoff was added.

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CFR: 40 C.F.R. 52.1320(c)(23)

FRM: 45 FR 85005 (12/24/80)

PRM: None

State Submission: 9/2/80

State Proposal: 5 MR 368 (4/1/80)

State Final: 5 MR 1125 (9/2/80)

APDB File: MO-10

Description: The EPA approved changes which: (1) revised the vapor pressure cutoff for storage tanks to 1.5 psia @ 70°F, and (2) amended the limit on gasoline loading to 0.3 grams per gallon of gasoline loaded. The EPA did not act on other changes submitted to comply with Group II CTG requirements.

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CFR: 40 C.F.R. 52.1320(c)(16)(iv)

FRM: 45 FR 24140 (4/9/80) and 45 FR 46806 (7/11/80) (correction)

PRM: 44 FR 61384 (10/25/79)

State Submission: 6/29/79

State Proposal: 4 MR 91 (2/1/79)

State Final: 4 MR 493 (6/1/79)

APDB File: MO-01

Description: The EPA approved a new regulation which added requirements for: (1) petroleum storage tanks, (2) gasoline loading, and (3) gasoline transfer (Stage I). The EPA's approval was conditional subject to the state revising the vapor pressure cutoff for storage tanks and amending the limit on gasoline loading.

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Difference Between the State and EPA-Approved Regulation

None.